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AUTHOR Williamson, Leon E.; Young, Preda
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ABSTRACT

In order to determine whether bilingual (Spanish/English) readers of English are less efficient in using language cues than are monolinguals (English), the Reading Miscue Inventory (RMI) was used to analyze the reading performances of 60 subjects--ten bilinguals and ten monolinguals each in fourth, fifth, and sixth grades. Subjects read orally at their instructional and frustrational levels, in basal readers and from a science text. Each subject's word attack errors or miscues were analyzed according to the diagnostic concepts in the RMI. Results showed that the monolinguals demonstrated more sensitivity to grammatical and semantic cues and that the relationship between miscues and comprehension is different for monolinguals and bilinguals--miscues are less apt to result in a comprehension loss for monolinguals. This research supports Loban's conclusion (1966) that language ability is necessary for competence in reading. (Tables of findings are included.) (JM)

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THE READING PERFORMANCES OF MONOLINGUALS AND BILINGUALS COMPARED

Leon E. Williamson
College of Education, New Mexico State University

Freda Young
Ysleta School District, El Paso, Texas

INTRODUCTION

Are bilingual (Spanish/English) readers of English less efficient in using language cues than monolinguals (English)? The following research suggests they are. Using Goodman and Burke's (1972) Reading Miscue Inventory to analyze reading performances of thirty bilinguals paired with monolinguals, it was discovered the monolingual subjects were more sensitive to grammatical and semantic cues.

Subjects were paired on the criteria of having achieved a fifth grade reading instructional level in Houghton-Mifflin's Reading for Meaning series. Each subject demonstrated the fifth grade reader to be at his instructional level for learning to read by: 1) making no more than five but more than one word attack error in one hundred running words; and 2) answering correctly at least 75% of the comprehension questions, but not to exceed 90% being correct. These criteria were developed by Betts (1950). Each subject read a two hundred-word passage. Twenty subjects (ten bilinguals, ten monolinguals) each in the fourth, fifth and sixth grades comprised the sixty subjects.

The bilinguals subjects are best described as being compound rather than coordinate bilinguals (Di Vesta 1974). A compound bilingual uses the same meanings for corresponding words in both languages. A compound bilingual learns both languages in the same community while the coordinate bilingual learns the languages in different communities and tends to apply different meanings to corresponding words in the two languages. Spanish was the first or native language for all the bilingual subjects.

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PROCEDURES

Each subject read at his instructional and frustrational levels, as defined by Bett's (1950) Informal Reading Inventory Criteria, in basal readers and from a science text. The frustrational level is defined by a reader making six or more word attack errors in a hundred running words and answering correctly less than 75% of the comprehension questions. This contrast to the instructional level of making from two to five word attack errors in a hundred running words and 75% comprehension.

The science texts used are in Harcourt, Brace and World series, Concepts in Science. Since Houghton-Mifflin's Reading for Meaning series only goes through the sixth grade, Ginn and Company's seventh grade level basal reader, Discovery Through Reading and the eighth grade level, Exploration Through Reading were used when necessary for a subject to reach his frustrational level.

Each subject's word attack errors or miscues were analyzed on the basis of the diagnostic concepts in the Reading Miscue Inventory (RMI). The RMI focuses on the quality of a reader's errors. The developers, Goodman and Burke (1972, p. 5), of the RMI, explains, "The RMI differs significantly from all other commonly used diagnostic and evaluative instruments in that the resulting analysis of reading proficiency is qualitative as well as quantitative." The RMI treats deviations in oral reading as miscues rather than as errors because they are cued by the thought and language of the reader in his encounter with the written material. Miscues occur when the reader does not effectively use one or more of the three cueing systems inherent in printed material. The three cueing systems are: (1) phonological, (2) syntactic, (3) semantic. To evaluate how well a reader is using these cueing systems the RMI suggests the following nine questions.

1. Dialect. Is a dialect variation involved in the miscue?

   Student reads: coal for cold
   des for desk
   hep for help

   He always be there. (for)
   He was always there.

   He fast in everything he do. (for)
   He is fast in everything he does.

2. Intonation. Is a shift in intonation in the miscue?

Student reads:

He signed the contract. (for)
He signed the con tract.

Mary, Ann is jumpting the rope. (for)

Mary Ann is jumping the rope.

3. Graphic Similarity. How much does the miscue look like what was expected?

High graphic similarity

Student reads: walk for walked

Some graphic similarity

Student reads: government for apartment

No graphic similarity

Student reads: chair for stool

4. Sound Similarity. How much does the miscue sound like what was expected?

High sound similarity

Student reads: try for tried

Some sound similarity

Student reads: odor for adore

No sound similarity

Student reads: away for any

5. Grammatical Function. Is the grammatical function of the miscue the same as the grammatical function of the word in the text?

Identical

Student reads:

John sat on a stool. (for)
John sat on a chair.

Different

Student reads:

John sat on a cheap. (for)
John sat on a chair.

Indeterminate

Student reads:

Mary did...(Student stops and corrects.)
Mary was baking cakes.

6. Correction. Is the miscue corrected?

Corrected

Student reads:

They live in a horse. (for)
They live in a house.
corrects: They live in a house.

Overcorrection

Student reads:

John gave the lady candy.
(for) John gave the woman candy.
corrects: John gave the woman candy.

7. Grammatical Acceptability. Does the miscue occur in a structure which is grammatically acceptable?

8. Semantic Acceptability. Does the miscue occur in a structure which is grammatically acceptable?

Questions 7 and 8 are interrelated. Goodman and Burke (1972, p. 60) wrote, "Because semantic structure is dependent on grammatical structure, semantic acceptability should never be marked higher...than grammatical acceptability." The miscues are categorized according to the degree to which they indicate the reader's strength in using the grammatical and meaning cueing systems to make his oral reading sound like language. The categories are: (1) strength, (2) partial strength, (3) weakness. A miscue assigned to the category strength indicates the reader demanded that his reading-language make sense in the constructs of grammar and semantics. An illustration:

Student reads:

I saw on the sat at the table.
corrects: I saw one seat at the table.

A partial strength miscue suggests the reader is relying on syntax without considering semantic cues. An illustration:

Student reads:

Out noises came from the old house.
(for) Loud noises came from the old house.
corrects: Thick noises came from the old house.

Miscues expressing weakness occur when the reader does not rely on either grammatical or semantic cues. An illustration:

Student reads:

He walked slowly as <u>is</u> he were lost.
(for) He walked slowly as <u>if</u> he were lost.
corrects: He walked slowly <u>it</u> he were lost.

9. <u>Meaning Change</u>. Does the miscue result in a change of meaning?

Questions 8 and 9 help determine the degree of meaning change. A miscue may result in: (1) no loss of comprehension, (2) partial loss of comprehension, (3) loss of comprehension. An illustration of a miscue assigned to the category no loss of comprehension is:

Student reads:

Dad was running around telling everyone what to do.
(for) Dad was running around <u>and</u> telling everyone what to do.

An illustration of a miscue resulting in partial loss of comprehension is:

Student reads:

The hammer fell from the table on to his foot.
(for) The hammer slipped off the table and fell on his toe.

An example of a miscue resulting in loss of comprehension is:

Student reads:

She took off the table and put it on her purse.
(for) She took it off the table and put it in her purse.

RESULTS

The data derived from subjects' performances were manipulated by the statistical tool analysis of variance. For each of the subcategories of miscues, F ratios were derived by: 1) a one way analysis based on: a) Monolingual (M) - Bilingual (B), b) Basal-Reader-Material (BM) - Science Material (SM), c) Instructional Level (IL) - Frustrational-Level (FL). 2) a two way analysis based on: a) Mono-Bilingual/Basal Material-Science Material (M-B/BM-SM), b) Mono-Bilingual/Instructional-Frustrational Level (M-B/IL-FL), c) Basal-Science Materials/Instructional-Frustrational Level (BM-SM/IL-FL). 3) a three way analysis based on Mono-Bilingual/Basal-Science Material/Instructional-Frustrational Level (M-B/BM-SM/IL-EL).

Only those factors with F ratios as great or greater than the .05 level of statistical confidence will be reported and discussed. Table 1, Means and F Ratios for One Way Analyses, and Table 2, Means and F Ratios for Two and Three Way Analyses, contain the statistical data to be discussed.

DISCUSSION

As Saville (Horn, 1970, p. 125) states, "...children with Spanish-language backgrounds present a major educational challenge to many schools, particularly in New York and the Southwest. Saville (Horn, 1970, p. 127) writes, "Most of the problems Spanish-speaking children have in learning to read...are due to the different correspondences between sounds and symbols." This research suggest this is not the major problem. As can be seen in Table 1, there were no significant differences between monolinguals

Table 1 Means and F Ratios for One Way Analyses

1=.05 2=.01	Graphic Similarity			Sound Similarity			Overcorrection	Grammatical Function		Grammatical and Semantic Acceptability			Comprehension	
	High	Some	None	High	Some	None		Identical	Indeterminate	Strength	Partial Strength	Weakness	No Loss	Loss
LANGUAGE														
N means							4.79	78.9		45.9		19.6	48.9	40.5
B means							1.95	72.9		31.3		33.0	40.1	47.6
F ratios							13.8^{2}	5.54^{1}		30.5^{2}		39.4^{2}	10.2^{2}	4.61^{1}
MATERIALS														
BM means								77.4	1.24					
SM means								74.0	4.15					
F ratios								4.39^{1}	4.05^{1}					
READING LEVELS														
IL means	66.6	14.2	19.2	67.7	15.1	17.0	4.75	73.0		47.7	22.8		55.9	32.8
FL means	76.2	9.8	14.1	77.7	10.7	10.9	1.98	78.7		29.5	40.6		33.0	55.3
F ratios	21.9^{2}	8.0^{2}	8.3^{2}	31.1^{2}	6.3^{1}	24.8^{2}	13.8^{2}	7.63^{2}		120.5^{2}	54.8^{2}		93.1^{2}	110.1^{2}

Table 2 Means and F Ratios f or Two and Three Way Analyses

1=.05 2=.02	Graphic Similarity High	Sound Similarity High	Overcorrection	Gram. & Sem. Accept. Strength	Partial Strength	Comprehension No Loss	Loss
M-B/IL-FL							
F Ratio	4.32[1]	4.43[1]					
M-IL Means	62.13	63.78					
M-FL Means	76	77.56					
B-IL Means	71.25	71.75					
B-FL Means	76.58	77.98					
BM-SM/IL-FL							
F Ratios				7.35[2]	11.5[2]	19[2]	17.9[2]
BM-IL Means				49.93	21.46	60.83	28.41
BM-FL Means				27.21	45.28	30.30	58.53
SM-IL Means				45.60	24.16	51.11	37.33
SM-FL Means				31.80	36.02	35.85	52.13
M-B/BM-SM/IL-FL							
F Ratios			5.06[1]			4.55[1]	
M-BM-IL Means			4.3			63.43	
M-BM-FL Means			2.7			35.50	
M-SM-IL Means			9.0			58.46	
M-SM-FL Means			3.0			38.33	
B-BM-IL Means			3.5			58.23	
B-BM-FL Means			.66			25.10	
B-SM-IL Means			2.1			43.76	
B-SM-FL Means			1.5			33.36	

and bilinguals for the categories of graphic and sound similarities. Table 2 shows interactions at the .05 level of statistical confidence for high graphic and sound similarities. The means for high graphic and sound similarities are larger for bilinguals than monolinguals. Thus, Saville's conclusion that most of the problems Spanish-speaking children have in learning to read are due to the different correspondences between sounds and symbols is not supported by this research.

The monolinguals demonstrated more sensitivity to the grammatical and semantic cues. The means for grammatical function-identical and grammatical and semantic acceptability-strength are larger for the monolinguals. The mean which indicate a lack of sensitivity (weakness) to grammatical and semantic cues are larger for bilinguals. When all subjects read the less difficult basal material, the mean was larger for miscues having identical grammatical function as that in the text. When reading the more difficult science material, subjects miscues had a larger mean for the indeterminate subcategory. Table 2 shows two interactions (BM-SM/IL-FL) significant at the .01 level for miscues having strength and partial strength. The means upon which these interactions are based reveal more than a lack of parallelness for miscues when subjects read different materials at different reading levels. They show subjects were more apt to make miscues having grammatical strength when reading at their instructional level and more likely to make miscues having partial strength when reading at their frustrational level. Thus, type of material and reading level as well as bilingualism are factors affecting a reader's sensitivity to grammatical and semantic cues. In fact, reading level was a significant factor in 12 of the 14 subcategories for miscues. Eleven of these subcategories were significant at the .01 level of statistical confidence.

Overcorrection was identified as a significant factor between monolinguals and bilinguals. The larger overcorrection mean for monolinguals may suggest a subtle semantic sensitivity bilinguals lacked. Table 2 shows a significant interaction for overcorrection in the three way analysis. The M-SM-IL mean of 9 and the B-SM-IL mean of 2.1 reveal the lack of parallelness which helped to generate this interaction. This high 9 as opposed to the low 2.1 could suggest a more precise semantic sensitivity for the monolinguals when reading in materials (science) where exact meaning is more crucial.

The relationship between miscues and comprehension is not the same for monolinguals and bilinguals. As shown by the means, miscues are less apt to result in a comprehension loss for monolinguals. As would be expected,

Table 2 shows interactions among the factors of bilingualism, type of materials, and reading levels for comprehension.

This research supports Loban's (1966) conclusion that language ability is necessary for competence in reading. Loban points out that children who do not possess adequate language do not learn to read, to comprehend, or to enjoy and appreciate what the school is trying to teach. This research suggest that emphasis alone on the English graphic system will not help bilinguals to comprehend, to enjoy and to appreciate the curriculum. Loban's (Horn, 1970) contention that children can learn to read English quite well in a nonstandard pronunciation should help teachers of reading to focus on what the bilingual student might be missing when standard pronunciation is the most significant criteria for successful reading. As York and Ebert (Horn, 1970, p. 186) suggest, "Special attention, ..., should be given to special words that give precise meaning to language. Prepositions, conjunctions, modifiers--the words that make language 'hang together' and give it precise and subtle meanings--these usually need to be taught to children who use restricted language." As Pena (Horn, 1970) suggest, there is no exclusively "correct" approach to resolve this problem. However, this research suggests an emphasis on grammatical and semantic cues are just as important as phonological cues.

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